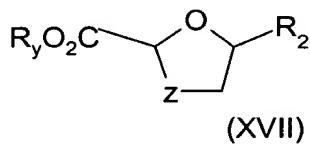


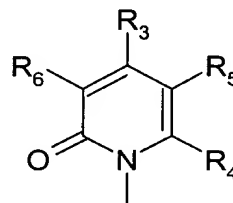
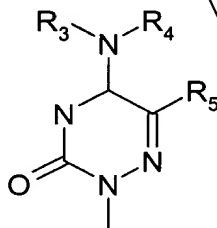
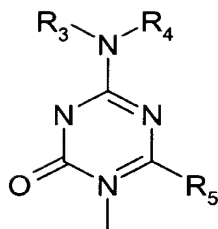
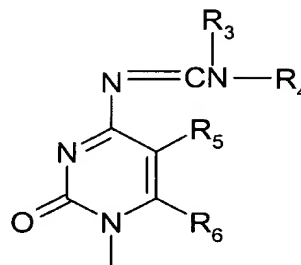
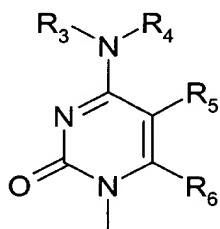
reacting the compound of formula (XVI) with a silylated R_2 - compound , in the presence of a Lewis acid, whereby said leaving group is displaced, to produce a compound of formula (XVII):



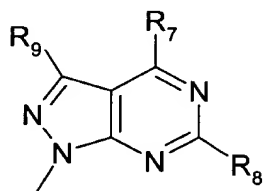
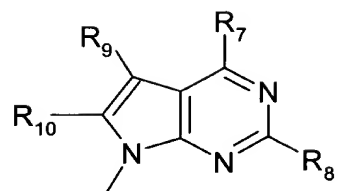
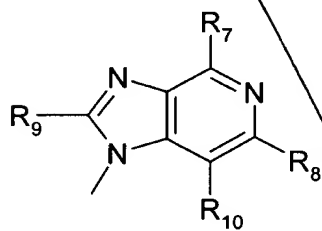
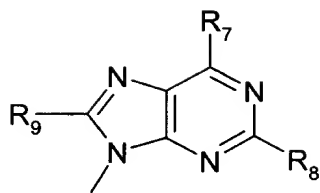
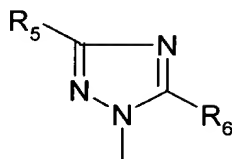
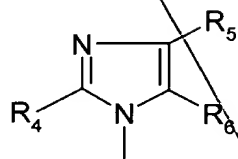
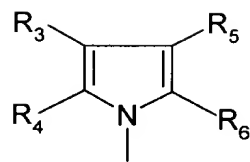
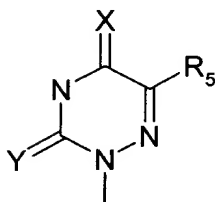
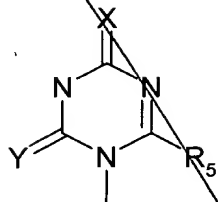
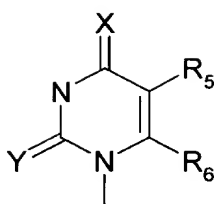
wherein

Z is S ;

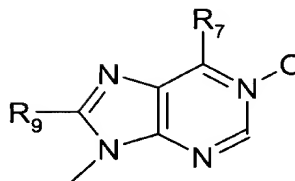
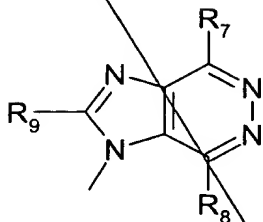
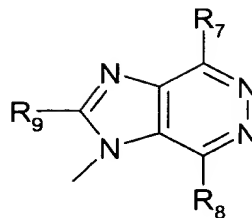
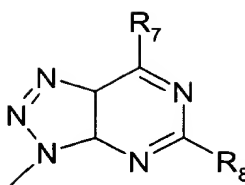
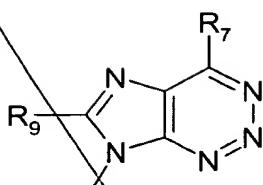
R_2 is selected from the following group:



Sub
DS



Ch
DS



X is oxygen or sulfur;

Y is oxygen or sulfur;

R₃ and R₄ are independently selected from hydrogen, hydroxyl, amino, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyl or aracyl;

R₅ and R₆ are independently selected hydrogen, halogen, hydroxyl, amino, cyano, carboxy, carbamoyl, alkoxycarbonyl, hydroxymethyl, trifluoromethyl, thioaryl, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyloxy;

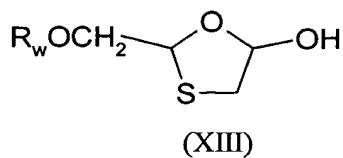
R₇ and R₈ are independently selected from hydrogen, hydroxy, alkoxy, thiol, thioalkyl, amino, halogen, cyano, carboxy, alkoxycarbonyl, carbamoyl, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyloxy; and

R₉ and R₁₀ are independently selected from the hydrogen, hydroxy, alkoxy, amino, halogen, azido, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyloxy.

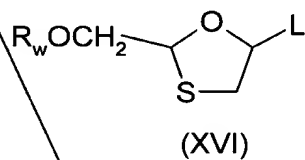
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75. A process comprising:

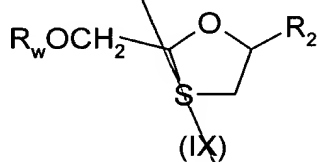
reacting a mercaptoacetaldehyde with a compound of formula R_wOCH_2CHO , under neutral or basic conditions, wherein R_w is hydrogen or a hydroxyl protecting group to obtain a compound of formula (XIII)



converting the hydroxyl of the compound of formula (XIII) to a leaving group L to obtain a compound of formula (XIV):



reacting the compound of formula (XIV) with a silylated purine or pyrimidine base or derivative thereof R_2 , in the presence of a Lewis acid, said leaving group is displaced, to produce a compound of formula (IX):

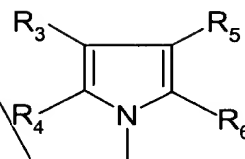
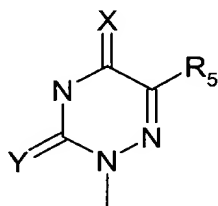
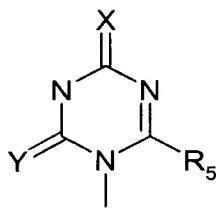
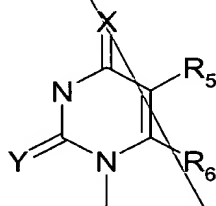
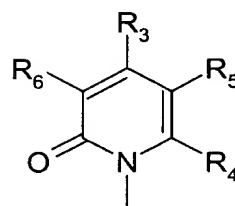
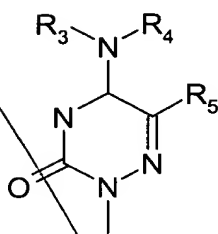
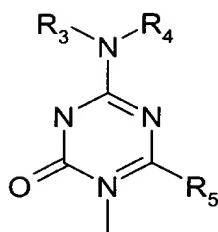
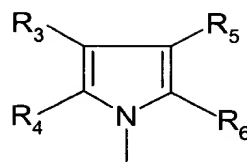
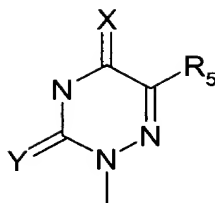
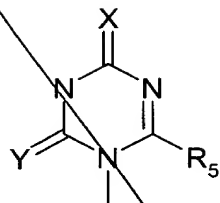


wherein

Z is S, and

R_2 is selected from the following group:

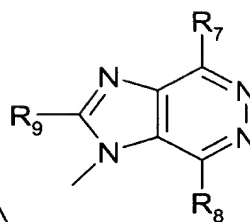
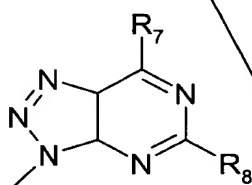
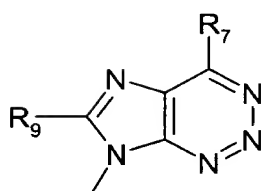
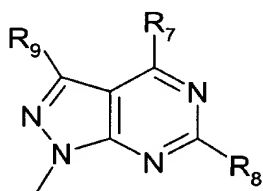
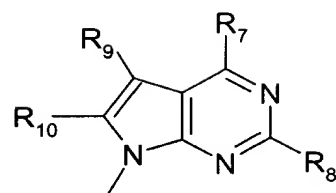
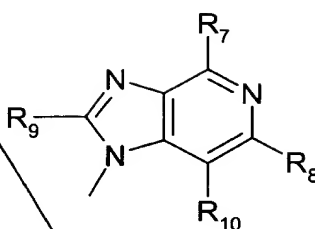
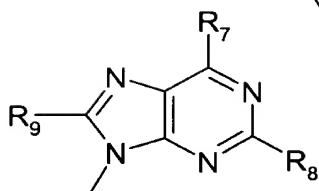
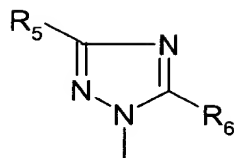
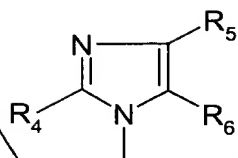
Q1
Sub
DS



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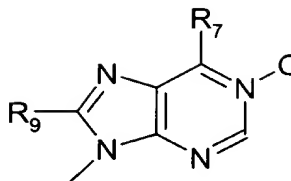
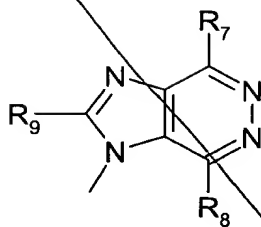
C1

Sub
DS



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ET
Sub
DS



X is oxygen or sulfur;

Y is oxygen or sulfur;

R₃ and R₄ are independently selected from hydrogen, hydroxyl, amino, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyl or aracyl;

R₅ and R₆ are independently selected from hydrogen, halogen, hydroxyl, amino, cyano, carboxy, carbamoyl, alkoxycarbonyl, hydroxymethyl, trifluoromethyl, thioaryl, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyloxy;

R₇ and R₈ are independently selected from hydrogen, hydroxy, alkoxy, thiol, thioalkyl, amino, halogen, cyano, carboxy, alkoxycarbonyl, carbamoyl, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyloxy; and

R₉ and R₁₀ are independently selected from the hydrogen, hydroxy, alkoxy, amino, halogen, azido, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, and C₁₋₁₀ acyloxy.--